

Abhay Cashikar

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Education

Georgia Institute of Technology, Atlanta, Georgia	<i>August 2018 – May 2023 (expected)</i>
M.S. in Computer Science, Computational Perception and Robotics	Current Overall GPA: 4.00
B.S. in Computer Science, System Architecture and Devices Threads	Current Overall GPA: 4.00
Minor in Japanese	
Ladue Horton Watkins High School, Saint Louis, Missouri	<i>May 2018</i>
National Merit Finalist, National AP Scholar	Overall GPA: 4.00
OCA Asian Pacific American Advocates Youth Leadership Award	
Rank of Eagle Scout	

Experience

Windows Software Engineering Intern, Microsoft	<i>May 2021 – July 2021</i>
<ul style="list-style-type: none">Developed a conversational Microsoft Teams bot that fetches Windows build and release dataMerges multiple development interfaces into one easily accessible locationAids developers and PMs in tracking e.g. Windows release check-in deadlines directly from Teams	
Azure Software Engineering Intern, Microsoft	<i>May 2020 – July 2020</i>
<ul style="list-style-type: none">Developed a tool to diagnose connectivity issues between virtual machines hosted on an Azure StackScans Azure Stack file dumps for a misconfigured firewall rule causing connectivity issuesTool will reduce or eliminate all calls to Microsoft regarding issues stemming from misconfiguration of firewallWorked in tandem with an intern working from Delhi, India	
Peer Tutor, Georgia Tech Athletics Association	<i>January 2020 – May 2020</i>
<ul style="list-style-type: none">Tutored five student-athletes for an hour every week on linear algebra and multivariable calculusTook a course to become a more effective tutor, and was awarded the CRLA Level 2 certification	
Embedded Systems Master Peer Instructor, The Hive Interdisciplinary Makerspace	<i>September 2018 – present</i>
<ul style="list-style-type: none">Help provide a hands-on learning environment to 2500 students a month for classwork and personal projectsHave written and contributed to Standard Operating Procedures detailing equipment usage and safetyTraining over 30 Peer Instructors on proper setup and usage of microcontrollers such as the Arduino UnoHolding office hours and am the main point of contact for all questions and projects related to microcontrollers	
Test Automation Engineer, Centene Corporation	<i>May 2019 – August 2019</i>
<ul style="list-style-type: none">Wrote and modified over 100 C# scripts using Ranorex Studio to test call center web database applicationUsed Git and Bitbucket for source control to work alongside other test automation team membersAttended weekly Scrum meetings and worked in an Agile environment full-time	
Research Intern, Washington University in Saint Louis	<i>May 2017 – February 2019</i>
<ul style="list-style-type: none">Retrofitted a robot cart with a PM sensor; developed manual sampling, autonomous sampling, and autonomous source finding programs using Arduino Nanos and a Bluetooth module connected to an Android deviceUsed MATLAB to plot collected spatiotemporal data in a contour plot showing accurate ventilation of PMPublished paper as first author in Journal of Environmental Engineering, Volume 145, Issue 10 entitled "Particulate Matter Sensors Mounted on a Robot for Environmental Aerosol Measurements"	
Peer Notetaker, Office of Disability Services	<i>September 2018 – May 2019</i>
<ul style="list-style-type: none">Take detailed notes in classes for students who have trouble taking notes while listening to professors lecture	

Publications

Cashikar, A., Li, J., & Biswas, P. (2019). Particulate Matter Sensors Mounted on a Robot for Environmental Aerosol Measurements. Journal of Environmental Engineering, 145(10), 04019057

Projects

Strapt Vending, Create-X	<i>August 2020 – December 2020</i>
<ul style="list-style-type: none">Developed a smart, connected period product dispenserPlanned to have electronic payment capability for a contactless, smooth experienceConducted market research by reaching out to people that menstruate and facilities managers	
Microsoft Deep Drive Computer Science Workshop, Microsoft	<i>June 2020 – August 2020</i>
<ul style="list-style-type: none">Organized a 10-week virtual coding workshop with other interns for students from low-income communitiesPlanned to introduce students to data structures and algorithms, as well as teach soft skills	

60% Mechanical Keyboard

January 2020 – March 2020

- 3D printed and assembled frame; soldered switches, diodes, and wires to a Teensy microcontroller
- Programmed keyboard in C using QMK firmware

Telemetry Subteam, *GT Solar Racing*

August 2019 – December 2020

- Developed program to collect data from solar car subsystems and send it to an online server over LTE and RF
- Wrote code in Golang to listen for data server-side and plot the data on graphs and maps in real-time

Slack Bot for Analytics Tracking and Response, *The Hive Interdisciplinary Makerspace*

August 2019 – May 2020

- Working on a Slack bot to manage shift swapping, makeups, part loans, and more for 100+ student volunteers
- Started on Node.js, but after some discussion shifted to Golang because of better support

IoT Device with Microsoft Azure

July 2019

- Tinkering with an MXChip IoT DevKit
- Set up an IoT Hub using Microsoft Azure, and sent data to it from an MXChip IoT DevKit via VS Code

Cleanify Web Application

April 2019

- Duplicates an existing Spotify playlist and removes all the songs marked explicit
- Built on Python and the Spotify API, considering moving to JS for easy integration with an HTML front-end

Strategy Algorithm Programmer, *GT Solar Racing*

March 2019 – May 2019

- Worked on a simulation to generate driving speed suggestions based on cloud cover models using Python
- Simulation will be used to increase efficiency of the solar car at the American Solar Challenge (ASC)

Good Deed Mobile Application

October 2018

- Created an application at HackGT to help users find volunteer opportunities in their community
- Used React Native to develop an infinite scrolling screen with social posts from volunteer organizations
- Utilized the NCR Site API to store and retrieve information about volunteering events and organizations

KanaGuess Android Application

December 2018

- Mobile application for Japanese character pronunciation recognition
- Developed Android application for Japanese learners using Android Studio and Java
- Allows users to select character groups to study, and provides feedback on incorrectly identified characters

Skills

Computer Science: Object-oriented programming, embedded systems, operating systems, FPGA development, version control, Agile development environment, data structures, algorithms, REST APIs, malware reverse engineering

Programming Languages: Java, C, C#, Python, Golang, Bash (command line/terminal), Node.js, React Native

Software: Git, GitHub, Visual Studio, Quartus, IntelliJ, IDA Pro, VS Code, Android Studio, Postman, Microsoft Azure, Ranorex Studio, Windows, macOS, Linux, MATLAB, Autodesk Inventor, Slack, Microsoft Office, Microsoft Teams, Adobe Illustrator

Instrumentation: Arduino, Teensy, Terasic DE10-Lite, Raspberry Pi, Tiva-C, Bluetooth module, particulate matter sensor, MXChip IoT DevKit, soldering iron, 3D printer, oscilloscope, waveform generator, power supply, multimeter

Spoken Languages: English (native), Kannada (native), Japanese (intermediate), Spanish (formerly studied)

Music: Classical and modern piano (15+ years of study and self-study)

Clubs: The Hive, GT Solar Racing, Institute of Electrical and Electronics Engineers, PianoForte, Starter Bikes, Robojackets

Leadership

Co-Director of Operations, *The Hive Interdisciplinary Makerspace*

August 2020 – present

- Continually revising safe makerspace policies amidst a global pandemic
- Organize training of 30+ new volunteers each semester on operation of microcontrollers, oscilloscopes, etc.
- Organize workshops as a means for students to learn hardware and software skills hands-on

Teaching Assistant, *College of Computing*

January 2022 – present

- Review assignments and labs for 30+ students in CS3651 (Prototyping Intelligent Devices)
- Hold office hours, help students with embedded systems and electronics projects

Resident Advisor, *Georgia Tech Department of Residence Life*

August 2019 – May 2021

- Was responsible for 50+ residents' safety, engagement, and success in the Georgia Tech community
- Trained on responding to various situations from roommate conflicts to mental health issues to sexual assault
- Organized weekly events to engage residents and promote a diverse and inclusive community

Vice President, *PianoForte Student Pianist Organization*

April 2019 – May 2020

- Worked to bring more pianos to Georgia Tech's campus and its residents
- Had talks with Dept. of Housing to place high-quality electric keyboards in each of the 49 GT residence halls
- Collaborated with university departments and student organizations to plan and execute recitals and concerts

Auxiliary Array Development Co-Leader, *GT Solar Racing*

August 2018 – May 2019

- Developed a deployable solar array to charge the solar car when it is parked
- Array consists of eight sections each containing a 4x4 grid of solar cells, for a total of 128 cells

Co-Captain and Mechanical Lead, *FIRST Robotics Team 4330*

August 2016 – May 2018

- Designed, prototyped, and built robot mechanisms, and delegated work to fellow team members
- Instructed new members on the engineering design process and proper equipment usage